



SAFETY DATA SHEET according to regulation 1907/200

Product name: Multi Signum

Creation date: 11.10.2021, Revision: 31.01.2022, version: 1.2

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name
MULTI SIGNUM LIQUID

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses
Lubricant.

Uses advised against
No information.

1.3 Details of the supplier of the safety data sheet

Supplier

WINKEL GmbH
Lisztstraße 1
53881 Euskirchen – Germany
Tel.: +49 2251 77 69 400-401 - Fax: +49 2251 77 69 402
E-Mail: info@winkelgroup.de
Internet: www.winkelgroup.de

1.4 Emergency Telephone Number

Emergency
112

Supplier
Tel. +49 2251 77 69 400-401

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)
Flam. Liq. 2; H225 Highly flammable liquid and vapour.
Asp. Tox. 1; H304 May be fatal if swallowed and enters airways.
Skin Irrit. 2; H315 Causes skin irritation.
STOT SE 3; H336 May cause drowsiness or dizziness.
Aquatic Chronic 2; H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

**Signal word: Danger**

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

EUH066 Repeated exposure may cause skin dryness or cracking.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P273 Avoid release to the environment.

P301 + P310 + P331 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Do NOT induce vomiting.

P302 + P352 + P362 + P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

Contains:

lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based distillates (petroleum), dewaxed light paraffinic, hydrotreated hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

2.3 Other hazards

Vapors can form an explosive mixture with air.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

For mixtures see 3.2.

3.2 Mixtures

NAME	CAS EC INDEX REACH	%	CLASSIFICATION ACCORDING TO REGULATION (EC) NO 1272/2008 (CLP)	SPECIFIC CONC. LIMITS	NOTES FOR SUBSTANCES
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	94733-15-0 305-594-8 649-506-00-9 01-2119486987-11	<50	Asp. Tox. 1; H304	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	91995-40-3 295-301-9 649-494-00-5 01-2119488517-24	<50	Asp. Tox. 1; H304	/	/
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	- 918-481-9 - 01-2119457273-39	25-50	Asp. Tox. 1; H304 EUH066	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0 927-510-4 - 01-2119475515-33	25-50	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	/	/

n-hexane	110-54-3 203-777-6 601-037-00-0	<1	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361F STOT RE 2; H373 Aquatic Chronic 2; H411	STOT RE 2; H373; C ≥ 5% /	
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Notes for substances

L	The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 "Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulphoxide extraction refractive index method", Institute of Petroleum, London. This note applies only to certain complex oil-derived substances in Part 3.
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SECTION 4: FIRST AID MEASURES

4.1 First aid measures

General notes

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency. No action shall be taken involving any personal risk or without suitable training.

Following inhalation

Remove patient to fresh air - move out of dangerous area. Keep at rest in a position comfortable for breathing. If symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. Areas of the body that have come into contact with the product must be rinsed with water and soap. If symptoms develop and persist, seek medical attention. Wash contaminated clothes and shoes before reuse.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

Following ingestion

Rinse mouth thoroughly with water. Do not induce vomiting! Immediately consult a doctor. Show the physician the safety data sheet or label.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation

Vapours may cause drowsiness and dizziness. Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation. Coughing, sneezing, nasal discharge, labored breathing.

Following skin contact

Irritating to the skin. Itching, redness, pain. Repeated exposure may cause dry skin or cracked skin.

Following eye contact

Contact with eyes can cause irritation (redness, tearing, pain).

Following ingestion

May cause abdominal discomfort. May cause nausea/vomiting and diarrhea. Irritates mucous membranes in the mouth, throat, esophagus and in gastrointestinal area. May be fatal if swallowed and enters airways.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂).

Fire extinguishing powder.

Water spray.

Alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Full water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO₂). Various hydrocarbons.

Aldehydes. Soot.

5.3 Advice for firefighters

Protective actions

In case of fire evacuate the area. In case of fire or heating do not breathe fumes/vapours. Cool the endangered containers with water spray. Vapours are heavier than air and spread along floor. Vapours may form explosive mixtures with the air. Move undamaged containers from immediate hazard area if it can be done safely. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated extinguishing agents must be disposed of in accordance with the regulations; do not allow to reach the sewage system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Precautionary measures

Ensure adequate ventilation. Keep away from sources of ignition and/or heat; No smoking!

Emergency procedures

No action shall be taken involving any personal risk or without suitable training. Prevent access to unauthorised personnel. Prevent access to unprotected personnel. Avoid contact with skin and eyes. Do not breathe vapour or mist.

For emergency responders

Use personal protective equipment.

6.2 Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

For containment

Stem the spill if this does not pose risks.

For cleaning up

In case of bigger spill, dam the spillage, pump the liquid into appropriate labelled containers, absorb a residue with absorbent material and dispose of according to local regulations. Do not absorb spillage with sawdust or other combustible material. Dispose in accordance with applicable regulations (see Section 13). Clean residue from spill site.

OTHER INFORMATION

No information.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures

Measures to prevent fire

Ensure adequate ventilation. Vapours are heavier than air and spread along the floor. They form explosive mixtures with air. Keep away from sources of ignition - no smoking. Protect from heat and direct sunlight. Take precautionary measures against static discharges.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Do not allow it to flow into sewerage systems, surface waters and soil. Close the packaging tightly immediately after use.

Other measures

No information.

Advice on general occupational hygiene

Consider measures required in Section 8 of this safety data sheet. Use personal protective equipment. Refer to instructions on label and regulations for safety and health at work. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/mist.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Store in accordance with local regulations. Keep in tightly closed container. Keep in cool and well ventilated area. Protect from open fire, heat and direct sunlight. Keep away from sources of ignition. Keep away from oxidising substances. Keep away from food, drink and animal feeding stuffs.

Packaging materials

The original container of producer.

Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking. Do not store in unlabelled containers.

Storage class

No information.

Further information on storage conditions

No information.

7.3 Specific end use(s)

Recommendations

No information.

Industrial sector specific solutions
No information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

NAME	MG/M ³	ML/M ³	SHORT-TERM VALUE MG/M ³	SHORT-TERM VALUE ML/M ³	REMARK	BIOLOGICAL TOLERANCE VALUES
Aromatics	500	/	/	/	/	/
Cycloalkanes ≥C7	800	/	/	/	/	/
Normal and branched chain alkanes ≥C7	1200	/	/	/	/	/
n-Hexane (110-54-3)	72	20	/	/	/	/

Information on monitoring procedures

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

DNEL/DMEL values

For product

No information.

For components

NAME	TYPE	EXPOSURE ROUTE	EXP. FREQUENCY	REMARK	VALUE
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	Worker	inhalation	long term systemic effects	/	2.73 mg/m ³
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	Worker	inhalation	long term local effects	/	5.58 mg/m ³
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	Worker	dermal	long term systemic effects	/	0.97 mg/kg bw/day
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	Consumer	oral	long term systemic effects	/	0.74 mg/kg bw/day
distillates (petroleum), dewaxed light paraffinic, hydrotreated	Worker	inhalation	long term systemic effects	/	2.73 mg/m ³
distillates (petroleum), dewaxed light paraffinic, hydrotreated	Worker	inhalation	long term local effects	/	5.58 mg/m ³
distillates (petroleum), dewaxed light paraffinic, hydrotreated	Worker	dermal	long term systemic effects	/	0.97 mg/kg bw/day
distillates (petroleum), dewaxed light paraffinic, hydrotreated	Consumer	oral	long term systemic effects	/	0.74 mg/kg bw/day
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Worker	inhalation	long term systemic effects	/	2085 mg/m ³

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Worker	dermal	long term systemic effects	/	300 mg/kg bw/day
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Consumer	inhalation	long term systemic effects	/	447 mg/m ³
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Consumer	dermal	long term systemic effects	/	149 mg/kg bw/day
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Consumer	oral	long term systemic effects	/	149 mg/kg bw/day

PNEC values

For product

No information.

For components

NAME	EXPOSURE ROUTE	REMARK	VALUE
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	food chain	oral	9.33 mg/kg feed
distillates (petroleum), dewaxed light paraffinic, hydrotreated	food chain	oral	9.33 mg/kg feed

8.2 Exposure controls

Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/aerosols. Keep away from foodstuffs, beverages and feed.

Structural measures to prevent exposure

No information.

Organisational measures to prevent exposure

If this product contains ingredients with exposure limits, personal, workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protection.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

Personal protective equipment

Eye and face protection

If there is risk of splashing into eyes, wear safety glasses with side shields (EN 166).

Hand protection

Protective gloves (EN 374).

Appropriate materials

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory protection. If the concentration limit values are exceeded, it is necessary to wear appropriate respiratory protection. Wear suitable protective breathing mask (EN 136) with filter A2-P2 (EN 14387).

Thermal hazards

No information.

Environmental exposure controls

Substance/mixture related measures to prevent exposure

No information.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state

liquid

Colour

yellow brown

Odour

characteristic

Important health, safety and environmental information

Odour threshold	No information.
pH	No information.
Melting point/Freezing point	No information.
Initial boiling point/boiling range	No information.
Flash point	No information.
Evaporation rate	No information.
Flammability (solid, gas)	No information.
Explosion limits (vol%)	No information.
Vapour pressure	No information.
Vapour density	No information.
Density / weight	Density: 0.788 kg/L at 20 °C
Solubility	No information.
Partition coefficient	No information.
Auto-ignition temperature	No information.
Decomposition temperature	No information.
Viscosity	No information.
Explosive properties	No information.
Oxidising properties	No information.

9.2 OTHER INFORMATION

Weight organic solvents	446 g/l (VOC) 56 % (VOC)
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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended transport or storage conditions.

10.2 Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 Possibility of hazardous reactions

The product is stable under recommended storage and handling conditions.

10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not expose to heat and direct sunlight. Take precautionary measures against static discharges.

10.5 Incompatible materials

Oxidants.
Strong acids.

10.6 Hazardous decomposition products

In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

(a) Acute toxicity

For components

NAME	EXPOSURE ROUTE	TYPE	SPECIES	TIME	VALUE	METHOD	REMARK
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	oral	LD ₅₀	rat	/	> 5000 mg/kg bw	/	/
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	dermal	LD ₅₀	rabbit	/	> 2000 mg/kg bw	/	/
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	inhalation	LC ₅₀	rat	4 h	> 5.53 mg/l	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	oral	LD ₅₀	rat	/	> 5000 mg/kg bw	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	dermal	LD ₅₀	rabbit	/	> 2000 mg/kg bw	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	inhalation	LC ₅₀	rat	4 h	> 5.53 mg/l	/	/
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	oral	LD ₅₀	rat	/	> 5000 mg/kg	/	/

hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	dermal	LD ₅₀	rabbit	/	> 5000 mg/kg	OECD 402	/
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	inhalation (vapours)	LC ₅₀	rat	/	> 4.951 mg/l	OECD 403 OECD 403	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	dermal	LD ₅₀	rat	24 h	> 2920 mg/kg bw	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	oral	LD ₅₀	rat	/	> 5840 mg/kg bw	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation (vapours)	LC ₅₀	rat	4 h	> 23300 mg/m ³	OECD 403	/

Additional information

The product is not classified for acute toxicity.

(b) Skin corrosion/irritation

For components

NAME	SPECIES	TIME	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	Irritating.	/	/

Additional information

Causes skin irritation.

(c) Serious eye damage/irritation

For components

NAME	EXPOSURE ROUTE	SPECIES	TIME	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	/	Not classified.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	/	Contact with eyes may cause irritation.	/	/

Additional information

The product is not classified as an irritant to the eyes.

(d) Respiratory or skin sensitisation

For components

NAME	EXPOSURE ROUTE	SPECIES	TIME	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	-	/	/	Not classified.	/	/

Additional information

The product is not classified as sensitising.

(e) (Germ cell) mutagenicity

For components

NAME	TYPE	SPECIES	TIME	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Genotoxicity	/	/	Negative.	/	/

(f) Carcinogenicity

For components

NAME	EXPOSURE ROUTE	TYPE	SPECIES	TIME	VALUE	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	/	/	/	Substance is not classified as carcinogenic.	/	/

(g) Reproductive toxicity

For components

NAME	REPRODUCTIVE TOXICITY TYPE	TYPE	SPECIES	TIME	VALUE	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Reproductive toxicity	/	rat	/	/	The results of animal studies gave no indication of a fertility impairing effect.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Developmental toxicity	/	rat	/	/	Did not show teratogenic effects in animal experiments.	/	/
n-hexane	Reproductive toxicity	/	/	/	/	Suspected of damaging fertility.	/	/

Summary of evaluation of the CMR properties

The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

(h) STOT-single exposure

For components

NAME	EXPOSURE ROUTE	TYPE	SPECIES	TIME	EXPOSURE	ORGAN	VALUE	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation	-	/	/	/	/	/	May cause effects on the central nervous system.	/	high vapours concentrations
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation	-	/	/	/	/	/	Symptoms: nausea, unconsciousness.	/	high vapours concentrations
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation	-	/	/	/	/	/	Symptoms: mucous membrane irritation.	/	high vapours concentrations
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation	-	/	/	/	/	/	May cause respiratory irritation.	/	high vapours concentrations
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	oral	-	/	/	/	/	/	May cause irritation of the digestive tract.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	-	-	/	/	/	/	/	May cause drowsiness or dizziness.	/	/

Additional information

May cause drowsiness or dizziness.

(i) STOT-repeated exposure

No information.

Additional information

STOT RE (repeated exposure): Not classified. Repeated exposure may cause skin dryness or cracking.

(j) Aspiration hazard

For components

NAME	RESULT	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Aspiration into the lungs can cause lung damage.	/	The exposed person should be kept under medical surveillance for 48 hours.
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	May be fatal if swallowed and enters airways.	/	/

Additional information

May be fatal if swallowed and enters airways.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute (short-term) toxicity

For components

NAME	TYPE	VALUE	EXPOSURE TIME	SPECIES	ORGANISM	METHOD	REMARK
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	LC ₅₀	> 100 mg/L	/	fish	/	/	/
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	EC ₅₀	> 100 mg/L	/	<i>Daphnia</i>	/	/	/
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	EC ₅₀	> 100 mg/L	/	other aquatic organisms	/	/	/
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	TLm	> 1 mg/L	/	other aquatic organisms	/	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	LC ₅₀	> 100 mg/L	/	fish	/	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	EC ₅₀	> 100 mg/L	/	<i>Daphnia</i>	/	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	EC ₅₀	> 100 mg/L	/	other aquatic organisms	/	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	TLm	> 1 mg/L	/	other aquatic organisms	/	/	/
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	LL ₀	1000 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	/	/

hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	EL ₀	1000 mg/L	48 h	crustacea	<i>Daphnia magna</i>	/	/
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	EL ₀	1000 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	ErL ₅₀	10 - 30 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	EbL ₅₀	10 - 30 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	EL ₅₀	3 mg/L	48 h	crustacea	<i>Daphnia magna</i>	OECD 202 OECD 202	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	LL ₅₀	> 13.4 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD 203 OECD 203	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	NOELR	6.3 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201 OECD 201	/

Chronic (long-term) toxicity

For components

NAME	TYPE	VALUE	EXPOSURE TIME	SPECIES	ORGANISM	METHOD	REMARK
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	NOELR	1 mg/l	21 days	crustacea	<i>Daphnia magna</i>	OECD 211	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	NOELR	1.53 mg/l	28 days	fish	<i>Oncorhynchus mykiss</i>	QSAR Petrottox QSAR Petrottox	/

12.2 Persistence and degradability

Abiotic degradation, physical- and photo-chemical elimination

For components

NAME	ENVIRONMENT	TYPE / METHOD	HALF TIME	EVALUATION	METHOD	REMARK
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Air	photodegradation	/	not expected	/	/
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	water	hydrolysis	/	not expected	/	/

Biodegradation

For components

NAME	TYPE	RATE	TIME	EVALUATION	METHOD	REMARK
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	biodegradability	80 %	28 days	readily biodegradable	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	biodegradability	98 %	28 days	readily biodegradable	OECD 301 F	/

12.3 Bioaccumulative potential

Partition coefficient

For components

NAME	MEDIA	VALUE	TEMPERATURE °C	PH	CONCENTRATION	METHOD
lubricating oils (petroleum), C18-40, solvent-dewaxed hydrocracked distillate-based	Octanol-water	> 6	/	/	/	/
distillates (petroleum), dewaxed light paraffinic, hydrotreated	Octanol-water (log Pow)	> 6	/	/	/	/

Bioconcentration factor (BCF)

No information.

12.4 Mobility in soil

Known or predicted distribution to environmental compartments

No information.

Surface tension

No information.

Adsorption/Desorption

No information.

12.5 Results of PBT and vPvB assessment

No evaluation.

12.6 Other adverse effects

No information.

12.7 Additional information

For product

Toxic to aquatic life with long lasting effects. Water hazard class (WGK): 3 (Self-assessment), very hazardous for water. Avoid release to the environment.

For components

hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics

Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / Packaging disposal

Waste chemical

Avoid release to the environment. Dispose of in accordance with applicable waste disposal regulation. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Product and container must be disposed of safely.

Waste codes / waste designations according to LoW

No information.

Packaging

Dispose of in accordance with applicable waste disposal regulation. Deliver completely emptied containers to approved waste disposal authorities.

Waste codes / waste designations according to LoW

No information.

Waste treatment-relevant information

No information.

Sewage disposal-relevant information

No information.

Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

ADR/RID	IMDG	IATA	ADN
14.1 UN number			
UN 1993	UN 1993	UN 1993	UN 1993
14.2 UN proper shipping name			
FLAMMABLE LIQUID, N.O.S. (hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)			
14.3 Transport hazard class(es)			
3	3	3	3
			
			
14.4 Packing group			
II	II	II	II
14.5 Environmental hazards			
YES	Marine pollutant	YES	YES
14.6 Special precautions for user			

Limited quantities 1 L Special provisions 274, 601, 640C Packing Instructions P001 Transport category 2 Tunnel restriction code (D/E)	Limited quantities 1 L EmS F-E, S-E	Limited Quantity, Packing Instructions (Ltd Qty, Pkg Inst) Y341 Limited Quantity, Maximum Net Quantity/Package (Ltd Qty, Max Net Qty/Pkg) 1 L Packing Instructions (Pkg Inst) 353 Maximum Net Quantity/Package (Max Net Qty/Pkg) 5 L	Limited quantities 1 L
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code			
Goods may not be carried in bulk in bulk containers, containers or vehicles.	Goods may not be carried in bulk in bulk containers, containers or vehicles.	Not given/not applicable	Not given/not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)
not applicable

Regulation EC 648/2004 on detergents

No information.

Special instructions

No information.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

Indication of changes

No information.

Key literature references and sources for data

No information.

Abbreviations and acronyms

ATE - Acute Toxicity Estimate

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

CEN - European Committee for Standardisation

C&L - Classification and Labelling

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

CAS# - Chemical Abstracts Service number

CMR - Carcinogen, Mutagen, or Reproductive Toxicant

CSA - Chemical Safety Assessment

CSR - Chemical Safety Report

DMEL - Derived Minimal Effect Level

DNEL - Derived No Effect Level

DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H336 May cause drowsiness or dizziness.

H361f Suspected of damaging fertility.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.